Notice of Allowability	Application No.	Applicant(s)	
	09/829,164	AMDNO ISIP	
	Examiner	Art Unit	
	Baoquoc N. To	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *12/22/2006*.

2. ☒ The allowed claim(s) is/are *1-37*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 08/01/2006
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *12/25/2006* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. Claims 1, 8, 13, 20, 27-28, 31, 34 and 37 are amended in the amendment filed on 12/06/2006. Claims 1-37 are pending in this application.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 08/01/2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Luke K. Pedersen, Reg. No. 45,003 on 12/22/2006.

1. (Currently Amended) A method for logging changes that are made during a reorganization process, comprising:

reading each record of a source file associated with at least one of a plurality of objects;

writing each record to a destination file;

identifying changes to the plurality of objects that are made during a reorganization process;

for each change, determining whether the change affects an object being

reorganized;

creating, during the reorganization process, a log file comprising log records, wherein the log records are associated with only those changes that are determined to affect an object being reorganized;

reading each log record of the log file;

processing each record of the log file to effect the associated change to the destination file; **[and]**

updating the associated change to the destination file; and

replacing the source file with the destination file.

8. (Currently Amended) A method for logging changes by a database management system, comprising:

identifying changes to a plurality of objects that are made during a reorganization process;

creating a log record based on a particular change **of the identified changes**;

determining whether the particular change **of the identified changes** affects **[an object]** **one or more of the plurality of objects** being reorganized;

storing the log record in a first log file recording selected changes only if the particular change is determined to affect an object being reorganized; and

storing the log record in a second log file regardless of whether the change is determined to affect an object being reorganized.

13. (Currently Amended) An apparatus for logging changes that are made during a reorganization process, comprising:

means for reading each record of a source file associated with at least one of a plurality of objects;

means for writing each record to a destination file;

means for identifying changes to the plurality of objects that are made during a reorganization process;

means for determining whether each change affects an object being reorganized;

means for creating, during the reorganization process, a log file comprising log records, wherein the log records are associated with only those changes that are determined to affect an object being reorganized;

means for reading each log record of the log file;

means for processing each record of the log file to effect the associated change to the destination file; **[and]**

means for updating the associated change to the destination file; and

means for replacing the source file with the destination file.

20. (Currently Amended) An apparatus for logging changes that are made during a reorganization process, comprising:

a processor;

a memory coupled to said processor and storing a program to control the operation of said processor;

the processor operative with the program in the memory to:

read each record of a source file associated with at least one of a plurality of objects;

write each record to a destination file;

identify changes to the plurality of objects that are made during a reorganization process;

for each change, determine whether the change affects an object being reorganized;

create during the reorganization process a log file comprising log records, wherein the log records are associated with only those changes that are determined to affect an object being reorganized;

read each log record of the log file;

process each record of the log file to effect the associated change

to the destination file; **[and]**

update the associated change to the destination file; and

replace the source file with the destination file.

27. (Currently Amended) A computer-readable storage medium encoded with processing instructions for implementing a method for logging changes that are made during a reorganization process, the processing instructions **executed by a processor** for directing a computer to perform the steps of:

reading each record of a source file associated with at least one of a plurality of objects;

writing each record to a destination file;

identifying changes to the plurality of objects that are made during a reorganization process;

for each change, determining whether the change affects an object being reorganized;

creating, during the reorganization process, a log file comprising log records, wherein the log records are associated with only those changes that are determined to affect an object being reorganized;

reading each log record of the log file;

processing each record of the log file to effect the associated change to the destination file;

updating the associated change to the destination file; and

replacing the source file with the destination file.

28. (Currently Amended) A method for logging changes that are made during a reorganization process, comprising:

creating an empty destination file;

establishing a program call to process log records;

reading each record of a source file associated with at least one of a

plurality of objects;

writing each record to the destination file;

identifying changes to the plurality of objects that are made during a reorganization process;

for each change, determining whether the change affects an object being reorganized;

employing the established program call to create during the reorganization process a log file comprising log records, wherein the log records are associated with only those changes that are determined to affect an object being reorganized;

removing the established program call;

reading each log record of the log file;

processing each record of the log file to effect the associated change to the destination file; **[and]**

updating the associated change to the destination file; and

replacing the source file with the destination file.

31. (Currently Amended) An apparatus for logging changes that are made during a reorganization process, comprising:

means for creating an empty destination file;

means for establishing a program call to process log records;

means for reading each record of a source file associated with at least one of a plurality of objects;

means for writing each record to the destination file;

mean for identifying changes to the plurality of objects that are made during a reorganization process;

means for determining whether each change affects an object being reorganized;

means for employing the established program call to create during the reorganization process a log file comprising log records, wherein the log records

are associated with only those changes that are determined to affect an object being reorganized;

means for removing the established program call;

means for reading each log record of the log file;

means for processing each record of the log file to effect the associated change to the destination file; **[and]**

updating the associated change to the destination file; and

means for replacing the source file with the destination file.

34. (Currently Amended) An apparatus for logging changes that are made during a reorganization process, comprising:

a processor;

a memory coupled to said processor and storing a program to control the operation of said processor;

the processor operative with the program in the memory to:

create an empty destination file;

establish a program call to process log records;

read each record of a source file associated with at least one of a plurality of objects;

write each record to the destination file;

identify changes to the plurality of objects that are made during a reorganization process;

for each change, determine whether the change affects an object being reorganized;

employ the established program call to create during the reorganization process a log file comprising log records, wherein the log records are associated with only those changes that are determined to affect an object being reorganized;

remove the established program call;

read each log record of the log file;

process each record of the log file to effect the associated change to the destination file; **[and]**

updating the associated change to the destination file; and

replace the source file with the destination file.

37. (Currently Amended) A computer-readable storage medium encoded with processing instructions for implementing a method for logging changes that are made during a reorganization process, the processing instructions **executed by a processor** for directing a computer to perform the steps of:

creating an empty destination file;

establishing a program call to process log records;

reading each record of a source file associated with at least one of a plurality of objects;

writing each record to the destination file;

identifying changes to the plurality of objects that are made during a reorganization process;

for each change, determining whether the change affects an object being reorganized;

employing the established program call to create during the reorganization process a log file comprising log records, wherein the log records are associated with only those changes that are determined to affect an object being reorganized;

removing the established program call;

reading each log record of the log file;

processing each record of the log file to effect the associated change to the destination file; **[and]**

updating the associated change to the destination file; and

replacing the source file with the destination file.

Allowable Subject Matter

4. Claims 1-37 are allowed over prior art made of records.

As to claim 1,

None of the known prior art alone or in combination either teaches of suggest "identifying changes to the plurality of objects that are made during a reorganization process; for each change, determining the change affect an object being reorganized; creating, during the reorganization process, a log file comprising logs record, wherein the log records are associated with only those changes that are determined to affect an object being reorganized;" in conjunction with " reading each record of a source file associated with at least one of a plurality of objects; writing each record to a destination file; reading each log record of the log file; processing each record of the log file to effect the associated change to the destination file; and replacing the source file with the destination file. "

Claims 2-7 are depended on claim 1; therefore, claims 2-7 are allowed under the same reason as to claim 1.

Claim 8 is similar to the concept of claim 1; therefore, claim 8 is allowed under the same reason as to claim 1.

Claims 9-12 are depended on claim 8; therefore, claim 9-12 are allowed under the same reason as to claim 8.

Claim 13 is apparatus for performing the steps of claim 1; therefore, claim 13 is allowed under the same reason as to claim 1.

Claims 14-19 are depended on claims 13; therefore, claims 14-19 are allowed under the same reason as to claim 13.

Claim 20 is an apparatus for performing the steps of claim 1; therefore, claim 20 is allowed under the same reason as to claim 1.

Claims 21-26 are depended on claim 1; therefore, claims 21-26 are allowed under the same reason as to claim 20.

Claims 27 is a computer-readable medium encoded with processing instruction for performing the steps of claim 1; therefore, claim 27 is allowed under the same reason as to claim 1.

Claim 28 is a method having similar steps of claim 1; therefore, claim 28 is allowed under the same reason as to claim 1.

Claims 29-30 are depended on claim 28; therefore, claims 29-30 are allowed under the same reason as to claim 28.

Claim 31 is an apparatus for performing the method of claim 28; therefore, claim 31 is allowed under the same reason as to claim 28.

Claims 32-33 are depended on claim 31; therefore, claims 32-33 are allowed under the same reason as to claim 31.

Claim 34 is an apparatus for performing the method of claim 28; therefore, claim 34 is allowed under the same reason as to claim 28.

Claims 35-36 are depended on claim 34; therefore, claims 35-36 are allowed under the same reason as to claim 34.

Claim 37 is a computer-readable storage medium encoded with processing instructions for performing the steps of claim 28; therefore, claim 37 is allowed under the same reason as to claim 28.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent:

Marshall et al.	(US. Patent No. 7,117,229 B2)	Patent date: 10/2006.
Gupta	(US. Patent No. 6,775,679 B2)	Patent date: 08/2004.
Herz	(US. Patent No. 6,460,036 B1)	Patent date: 10/2002.
Venkatesh et al.	(US. Patent No. 6,985,914 B2)	Patent date: 10/2006.
Huras et al.	(US. Patent No. 6,950,834 B2)	Patent date: 09/2005.

NPL:

Casazza, J.A. An American's view of the reorganisation of the ESI, Power Engineering Journal, V. 11, Issue.2, April 1997, pages 79-84.

Zou et al. On-line reorganization of sparsely-populated B+-trees, International Conference of Management of Data, ACM SIGMOD, 1996, pages 115-124.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is at 571-272-4041, or unofficial fax number for the purpose of discussion (571) 273-4041 or via e-

mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached at 571-272-4107.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

(571) –273-8300 [Official Communication]

BQ To BQ
December 25th, 2006

John E. Breene
JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100